

CLAIMS

Sub A1/ 1. A method for programming a read-only memory cell including a transistor formed in a semiconductor substrate of a first doping type, the transistor having a drain and a source of a second doping type separated in the substrate by a conduction channel, the method comprising a step of:

5 contradoping a first region of the source such that the first region is of the first doping type to prevent a transistor effect from occurring, the first region being adjacent to the conduction channel.

2. The method of claim 1, wherein the step of contradoping includes a step of contradoping only the first region of the source of the transistor such that a second region of the source remains of the second doping type.

Sub A2/ 3. A memory, in integrated circuit form, comprising:
a plurality of transistors that form a corresponding plurality of memory cells, wherein each transistor has a drain and a source separated by a conduction channel, wherein a first transistor forms a corresponding programmed cell, and wherein the conduction channel and a region of the source
5 of the first transistor are adjacent to each other and are of the same doping type.

4. The memory of claim 3, wherein the drain and a second region of the source of the first transistor are of the same doping type.

Sub A3/ 5. A memory, comprising:
a plurality of cells formed in a substrate of a first doping type, the plurality of cells including a first programmed cell having a drain of a second doping type, a conduction channel of the first doping type, and a source, wherein the source includes a first region of the first doping type adjacent
5 the conduction channel.

6. The memory of claim 5, wherein the source of the first programmed cell further includes a second region of the second doping type contacting the first region.

Sub A4/ 7. A memory, comprising:

a plurality of cells formed in a substrate of a first doping type, the plurality of cells including a first programmed cell having a drain of a second doping type, a conduction channel of the first doping type, and a source including non-conducting means for providing a non-conducting response
5 in the conduction channel to prevent a transistor effect from occurring between the drain and the source when predetermined voltages are applied to the first programmed cell to read the first programmed cell.

8. The memory of claim 7, wherein the non-conducting means is a first region of the source of the first programmed cell contradoped such that the first region is of the first doping type to form a degenerate transistor as the first programmed cell.

9. The memory of claim 8, wherein the first region of the source of the first programmed cell has a doping concentration less than that of the drain.

10. A method for programming a cell, comprising a step of:
forming, in a substrate of a first doping type, a first transistor having a drain of a second doping type, and a source of the second doping type, such that a portion of the substrate forms a conduction channel between the source and the drain; and
5 contradoping a first region of the source to make the first transistor degenerate.

11. The method of claim 10, wherein the step of contradoping includes the steps of:
dividing the source into the first region, and a second region, wherein the first region contacts the conduction channel; and
contradoping only the first region that contacts the conduction channel.

12. The memory of claim 3, wherein the first region is originally of a doping type that is opposite that of the conduction channel.